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Fax Transmission | October 14, 2004

TO: Commissioner for Patents
 Attn: Examiner Glenda P. Rodriguez
 Patent Examining Corps
 Facsimile Center
 Alexandria, VA 22313-1450

FROM: Brendan J. Hanley
 OUR REF: STL 9825.00

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Title of Document Transmitted: Reply and Amendments Under 37 CFR 1.111

Applicant: Edwin Frank Rejda et al
 Serial No.: 09/930,741
 Filed: 8/15/01
 Group Art Unit: 1753
 Our Ref. No.: STL 9825.00

Please charge any additional fees or credit overpayment to Deposit Account No. 50-0372.
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By: Brendan J. Hanley
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PATENT APPLICATION
RESPONSE UNDER 37 CFR § 1.111

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Rejda et al Date: October 14, 2004
Serial No: 09/930,741 Docket No.: STL 9825.00
Filed: August 15, 2001 Examiner: McDonald, Rodney
For: ION MILL SHUTTER SYSTEM Art Unit: 1753

RESPONSE UNDER 37 CFR 1.111
(RESPONSE TO NOTICE OF NON-COMPLIANT AMENDMENT)

Commissioner for Patents
Mail Stop Amendment
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action mailed May 10, 2004, (and in response to the "Notice of Non-Compliant Amendment" dated August 19, 2004), Applicant presents the following response.

The Examiner is invited to contact Applicant's Representatives at the below listed telephone number if there are any questions regarding this Response or if prosecution of this application may be assisted thereby.

Amendments

1-7. (Cancelled)

8. (Currently Amended) An apparatus for use in a wafer process comprising:
a carrier;
an elongated element ~~held by the carrier~~; and
a mask including a first shutter, a second shutter, and an
actuator for moving the first shutter and second shutter, ~~wherein said~~
~~mask is used to selectively cover a first portion of the elongated~~
~~element as the wafer process continues to act on a second portion of the~~
~~elongated element, the wafer process substantially halting with~~
~~respect to the first portion of the elongated element~~
a controller, wherein said controller is structured to monitor at
least one property level of the element, further wherein the controller
is structured to independently actuate each of the first and second
shutter based on the property level.

9. (Previously Presented) The apparatus of claim 8 wherein the mask is a dynamic mask.

10. (Currently Amended) The apparatus of claim 9 ~~wherein further comprising a~~
~~controller for the actuator, the controller actuating~~ each of the first shutter and the
second shutter between an open position where the shutter is not covering a portion of
the elongated element and a covering position, where the shutter is covering a portion
of the elongated element.

11. (Cancelled)

12. (Currently Amended) The apparatus of claim 9 wherein the elongated element is a
row of a plurality of magneto resistive elements sliced from a wafer.

13. (Currently Amended) The apparatus of claim 12 wherein at least one property level includes ~~two of the magneto resistive elements of the row of a plurality of magneto resistive elements are monitored for electrical resistance, the apparatus further wherein comprising a controller for the actuator, the controller actuating~~ each of the first shutter and the second shutter between an open position where the at least one of the first and second shutter is not covering a portion of the elongated element, and a covering position where the at least one of the first and second shutter is covering a portion of the elongated element, in response to the electrical resistance associated with that portion of the elongated element being at a predefined value.

14. (Original) The apparatus of claim 13 wherein the first shutter has a width larger than the width of at least one magneto resistive element.

15. (Original) The apparatus of claim 13 wherein the first shutter has a width larger than the width of one magneto resistive element and less than the width of two magneto resistive elements.

16. (Original) The apparatus of claim 13 wherein the first shutter has a width larger than the width of at least two magneto resistive elements.

17. (Previously Presented) The apparatus of claim 13 wherein the electrical resistance is measured during the wafer process of ion milling.

18. (Previously Presented) The apparatus of claim 17 wherein the electrical resistance is measured during the wafer process of ion milling and wherein the controller moves at least one of the first shutter and the second shutter over at least one of the magneto resistive elements during the process of ion milling, wherein the shutter has a width to substantially protect the magneto resistive element below the shutter from removal of material when the shutter is placed in a covering position over the magneto resistive element.

19. (Currently Amended) The apparatus of claim 12, wherein a magneto resistive element selected from the plurality of magneto resistive elements includes a

stripe having a stripe height, further wherein the property level resistance measured across the magneto resistive element is related to the stripe height.

20. (Currently Amended) An apparatus for use during a semiconductor fabrication process comprising:

a plurality of targets;

a mask having a plurality of shutters positioned adjacent the plurality of targets; and

controller means for monitoring a property level of the plurality of targets, and independently actuating each of the plurality of targets based on each of the plurality of targets property level covering a portion of a target to prevent exposure of the portion of the target from the semiconductor fabrication process while an uncovered portion remains subjected to the semiconductor process.

21-29 (Cancelled)

30. (Currently Amended) An apparatus for use in a wafer process comprising:

a carrier;

an elongated element held by the carrier; and

a mask including at least one shutter and an actuator for moving the at least one shutter, wherein said mask is used to selectively cover a first portion of the elongated element as the wafer process continues to act on a second portion of the elongated element, the wafer process substantially halting with respect to the first portion of the elongated element; and

a controller, wherein said controller is structured to monitor a property level of the elongated element, further wherein the controller is structured to independently actuate each of the first and second shutter based on the property level.

31. (Previously Presented) The apparatus of claim 30 wherein the mask is a dynamic mask.

32. (Previously Presented) The apparatus of claim 31 further comprising a controller for the actuator, the controller actuating the at least one shutter between an open position where the at least one shutter is not covering a portion of the elongated element and a covering position where the at least one shutter is covering a portion of the elongated element.

33. (Currently Amended) The apparatus of claim 31 further comprising:

~~a controller for the actuator, the controller actuating the at least one shutter between an open position where the at least one shutter is not covering a portion of the elongated element and a covering position where the at least one shutter is covering a portion of the elongated element; and~~

~~a mechanism for measuring the a property level associated with a selected portion of the elongated element and communicating said property to said controller, wherein the controller actuates the at least one shutter in response to a selected value of a measured property.~~

34. (Previously Presented) The apparatus of claim 33, wherein the elongated element is a rowbar containing a plurality of magneto resistive elements.

35. (Currently Amended) The apparatus of claim 34 wherein at least one property level includes two of the magneto resistive elements of the row of a plurality of magneto resistive elements are monitored for electrical resistance, the apparatus further wherein comprising a controller for the actuator, the controller actuating each of the first shutter and the second shutter between an open position where the at least one of the first and second shutter is not covering a portion of the elongated element, and a covering position where the at least one of the first and second shutter is covering a

portion of the elongated element, in response to the electrical resistance associated with that portion of the elongated element being at a predefined value.

36. (Previously Presented) The apparatus of claim 35, wherein the electrical resistance is measured during the wafer process of ion milling.

37. (Previously Presented) The apparatus of claim 36, wherein the electrical resistance is measured during the wafer process of ion milling and wherein the controller moves the at least one shutter over the at least one magneto resistive element during the process of ion milling, wherein the at least one shutter has a width to substantially protect the magneto resistive below the at least one shutter from removal of material where the shutter is placed in a covering position of the at least magneto resistive element.

38. (Previously Presented) The apparatus of claim 34, wherein at least one magneto resistive element selected from the plurality of magneto resistive elements includes a stripe having a stripe height, the resistance measured across the at least one magneto resistive element is related to the strip height.

39. (Previously Presented) An apparatus for use in a wafer process comprising:
a carrier;

an elongated element held by the carrier;

a mask including at least one shutter and an actuator for moving the at least one shutter, wherein said mask is used to selectively cover a first portion of the elongated element as the wafer process continues to act on a second portion of the elongated element, the wafer process substantially halting with respect to the first portion of the elongated element; and

a controller for the actuator, the controller actuating the at least one shutter between an open position where the at least one shutter is not covering a portion of the elongated element, and a covering position

where the at least one shutter is covering the portion of the elongated element, in response to a monitored property level associated with the portion of the elongated element being at a predefined value.

40. (New) The apparatus of claim 39 wherein the mask is a dynamic mask.
41. (New) The apparatus of claim 39, further comprising a mechanism for measuring the property level associated with a selected portion of the elongated element and communicating said property level to said controller.
42. (New) The apparatus of claim 39, wherein the elongated element is a rowbar containing a plurality of magneto resistive elements.
43. (New) The apparatus of claim 39 wherein the property level includes electrical resistance, further wherein the controller actuates each of the first shutter and the second shutter between an open position where at least one of the first and second shutter is not covering a portion of the elongated element, and a covering position where the at least one of the first and second shutter is covering a portion of the elongated element, in response to the electrical resistance associated with that portion of the elongated element being at a predefined value.
44. (New) The apparatus of claim 43, wherein the electrical resistance is measured during the wafer process of ion milling.
45. (New) The apparatus of claim 44, wherein the controller moves the at least one shutter over the at least one magneto resistive element during the process of ion milling, wherein the at least one shutter has a width to substantially protect the magneto resistive element below the at least one shutter from removal of material where the shutter is placed in a covering position of the at least magneto resistive element.
46. (New) The apparatus of claim 34, wherein at least one magneto resistive element selected from the plurality of magneto resistive elements includes a stripe having a

stripe height, the resistance measured across the at least one magneto resistive element is related to the strip height.